



## PRELIMINARY ASSESSMENT (PA) REPORT

For

**Libertyville Training Site  
Vernon Hills, Lake County, Illinois**

**April 21, 2006**

**Prepared By:**

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## PRELIMINARY ASSESSMENT CHECKLIST/DECISION FORM

The checklist can be used to assist the site investigator during Preliminary Assessment. This checklist should document the rationale for the decision as to whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

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**Site Name:** Libertyville Training Site

**Previous names (if any):** Not Applicable

**Site Location:** Route 45 (aka “Old Half Day Road”) and Milwaukee Avenue, Vernon Hills, Lake County, IL

**Latitude:** 42 degrees, 13 minutes, 21 seconds N

**Longitude:** 87 degrees, 57 minutes, 10 seconds W

### PHASE A - CERCLA Eligibility Evaluation

If the answer to any one of these is yes, the site can be no further response action planned (NFRAPed)		
	YES	NO
1. Is the site non-existent, or is it not a duplicate (or “alias”) of another site?		X
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		X
3. Are hazardous substances potentially released at the site excluded statutorily (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC< UMTRCA, or OSHA)?		X
4. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferred to RCRA Corrective Action, FIFRA, or Brownfields)?		X
5. Is there insufficient data (provided by the State) to verify that a release has occurred (e.g., based on potentially unreliable sources or with no information to support the presence of hazardous substances or CERCLA eligible pollutants and contaminants)?		X
6. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARS, completed removal action, previous HRS score determined, or an EPA approved risk assessment completed)?	X	

Please explain all yes answer(s). See attached narrative.

#### PHASE B - INITIAL SITE EVALUATION

Use Exhibit A to make site assessment decisions based on the answers below:	YES	NO
Is there documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		X
Is there an apparent release at the site with no documentation of exposed targets, but there are targets on-site or immediately adjacent to the site?		X
Is there an apparent release and no documented on-site targets, but there are nearby targets (e.g., targets within 1 mile)?	X	
Is there indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on-site or in proximity to the site?		X
Are there documented onsite or nearby targets?	X	
Are there uncontained sources containing CERCLA eligible substances are present on site?		X
There are no releases or potential to release.		X

Please explain all yes answer(s). See attached narrative.

#### EPA Regional Review and Site Assessment Decision

Check the box(es) that apply:

☒ NFRAP

☐ Higher Priority Site Inspection(SI)

☐ Lower Priority SI

Defer/Refer to:

☐ Removal Program

☐ State/Tribal Program

☐ RCRA

☐ Brownfields

☐ Other: \_\_\_\_\_

Regional U.S. EPA Preparer/Reviewer:

Laura J. Ripley 04/21/2006  
LAURA J. RIPLEY

Print Name / Signature

Date

## **1.0 INTRODUCTION**

Under authority of the Comprehensive Environmental Response Compensation Liability Act of 1980 (CERCLA), and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the United States Environmental Protection Agency (U.S. EPA) conducted a Preliminary Assessment (PA) at the Libertyville Training Site (LTS) which was added to the Federal Agency Hazardous Waste Compliance Docket on April 11, 1995. LTS was added to the docket based upon information that indicated that this federal facility manages hazardous waste or has the potential for hazardous waste problems.

The purpose of this PA was to collect information concerning conditions at LTS sufficient to assess the threat posed to human health and the environment, to determine the need for a preliminary assessment and site investigation under CERCLA or other authority, and if appropriate, support site evaluation using the Hazard Ranking System (HRS) for proposal to the National Priorities List (NPL). The scope of the investigation included reviewing previous information, evaluating and documenting HRS factors, and collecting additional non-sampling information.

The PA included review of information provided to U.S. EPA by the U.S. Navy.

## **2.0 SITE DESCRIPTION and SITE HISTORY**

The LTS is located at the intersection of Route 45 (otherwise known as "Old" Half Day Road) and Milwaukee Avenue in Vernon Hills, Lake County, Illinois. Its coordinates are 42 degrees, 13 minutes, and 21 seconds N and 87 degrees, 57 minutes, and 10 seconds W.

In 1945, the U.S. Navy acquired the 184-acre LTS from the Curtiss Candy Company. The U.S. Navy used the site as an auxiliary field to train pilots during World War II. In 1954, the U.S. Navy transferred the property to the U.S. Army. From 1954 through the early 1960s, the U.S. Army used the property as a NIKE missile base. In the early 1960s, the site was decommissioned and the missiles were removed. In 1971, the Federal Aviation Administration (FAA) relocated the Northbrook Visual Omni Range with Tactical Air Navigation (VORTAC) from O'Hare International Airport to a 6-acre parcel on the LTS.

In 1972, the property was transferred back to the Navy. A 20-acre parcel in the northeast corner of the property was transferred to the Lake County Public Works Department for construction of a wastewater treatment plant. This parcel, currently occupied by the Lake County Publicly-Owned Treatment Works, is no longer part of the LTS and was investigated by the U.S. Army under the Formerly Used Defense Sites program. The remaining 164 acres were unused until 1982. In 1982, the aboveground structures associated with the NIKE missile site were demolished. Between 1982 and 1989, the U.S. Navy used the LTS for training and a small arms firing range. Between 1989 and 2001, most of the site remained vacant, and in 1993, the LTS was slated for closure under the Base Closure and Realignment Act (BRAC). The U.S. Navy formed a BRAC Cleanup Team (BCT) with one representative each from the U.S. EPA, U.S. Navy, and Illinois EPA. Throughout the process, the BCT worked with another group known as the Restoration Advisory Board, which consisted of citizens who volunteered to work with the BCT. Between 1993 and 2003, the U.S. Navy conducted site investigation and remediation activities at the LTS. In 2001, the Village of Vernon Hills began redevelopment of the LTS.

Shallow groundwater is present at LTS between 30 and 70 feet below ground surface (bgs) and flows southeast. Three of four private wells located within 0.5 mile of the LTS are screened in the shallow aquifer; however, only one well is considered to be directly downgradient of the LTS. A 1-acre low-lying wetland area is located in the southeast corner of the site. However, actual contamination in the wetland and potential sources of contamination near the wetland were not identified in the information reviewed. Ground water analytical results from monitoring well LG-7 located in Area 9A immediately upgradient of the wetland area indicated that ground water in this area is not contaminated. Surface water runoff at the

LTS is generally to storm water ditches located throughout the LTS. The storm water ditches discharge to the Seavey Drainage Ditch, which flows into Indian Creek and then into the Des Plaines River.

### **3.0 PREVIOUS INVESTIGATIONS AND REMEDIATION ACTIVITIES**

In 1993 and 1994, the U.S. Navy removed approximately 15,436 cubic yards of asbestos-containing material and 7,389 cubic yards of fill material from the site. The material was disposed of off site. In 1995, additional asbestos-containing surface debris was removed and disposed off site. Also in 1993, 597 cubic yards of lead-contaminated soil from a former firing range was removed and disposed of off site.

In 1994, the U.S. Navy conducted a site-wide environmental baseline survey (EBS) to assess the environmental condition of the property. The EBS indicated that more information was needed to evaluate the environmental status of the site. As a result, the U.S. Navy began an investigation to determine whether environmental contamination existed on site and, if so, where it was located and what remediation might be needed to eliminate any risks.

Also in 1994, the U.S. Navy prepared a BRAC cleanup plan for the LTS. The plan presented a comprehensive strategy for implementing response actions necessary to protect human health and the environment.

In 1995, a background soil and groundwater quality investigation was conducted to assess site geologic and hydrogeologic conditions. In 1997 and 1998, the U.S. Navy conducted the Gray Sites investigation. The entire site was divided into 10 study areas, and soil and groundwater samples were collected in each of these areas to determine whether more investigation or cleanup was necessary. As a result of the Gray Sites investigation, the 10 primary study areas were subdivided into smaller areas that required further investigation. This allowed the U.S. Navy to transfer uncontaminated parcels (90 percent of the LTS) to the LRA. These parcels were transferred in 2000 for redevelopment.

In 1998 and 1999, the U.S. Navy conducted an additional investigation (Gray Sites investigation addendum) of the 10 study areas identified in the Gray Sites investigation as requiring further study. Of the 10 study areas, the addendum identified only 3 that required remediation activities (Areas 6A, 7A, and 10A).

Between 2000 and 2002, 2,250 cubic yards of contaminated sediment were removed from the NIKE missile magazine storm water ditch in Area 6A because petroleum-based compounds and heavy metals were present at concentrations above risk-based standards. For an additional time-critical removal action, approximately 720 cubic yards of soil was removed from an area south of Magazine Bravo. Also, the U.S. Navy removed accumulated water containing petroleum product from all three remaining magazines and cleaned and demolished the magazines in Area 6A. Finally, the U.S. Navy installed and analyzed groundwater from 13 new monitoring wells in Area 6A. All constituent concentrations detected were equal to or below the state groundwater quality standards or background concentrations.

In 1999, 420 cubic yards of contaminated soil was removed from Area 7A, the missile assembly area. In 2000 and 2001, 60 cubic yards of lead-contaminated soil was removed from Area 10A.

Between 1994 and 1998, eight underground storage tanks (UST) and associated contaminated soil were removed from the LTS. The USTs apparently contained fuel and would be exempt from regulation under CERCLA. However, polychlorinated biphenyls were detected in soil surrounding Tank 19. As a result, the soil contamination was removed.

Between 2000 and 2003, the U.S. Navy transferred property ownership to the LRA for redevelopment as a school, athletic and recreation fields, and open areas (parks and public space), as well as for storm water management. The transfer documents indicate that asbestos-containing material and lead-based paint

remained at some of the transferred property. Also, the parcel containing the FAA VORTAC was transferred to the FAA.

#### **4.0 DISCUSSION OF MIGRATION PATHWAYS**

This section discusses potential migration pathways and receptors. There were no migration pathways of concern identified based upon the work the U.S. Navy conducted in coordination with U.S. EPA and Illinois EPA. The ground water, surface water, soil, and air pathways were not considered pathways of concern as the contaminants which were identified were presumably removed to allow for unrestricted future development.

#### **5.0 GENERAL SITE CONCLUSIONS**

Between 1993 and 2003, the U.S. Navy conducted site-wide investigations and remediation activities in anticipation of property transfer for redevelopment. Remediation activities resulted in removal of contaminants to levels that allowed for unrestricted future development. U.S. EPA reviewed certain LTS background documents as provided by the U.S. Navy. Based on U.S. EPA's review of these documents, it appears that the U.S. Navy has remediated identified on-site sources to allow for unrestricted future land use and these remediation activities have addressed potential migration of contaminants to ground water, surface water, and soil. In addition to conducting site-wide soil and ground water investigations, the U.S. Navy has (1) remediated on-site soil in Areas 6A, 7A, and 10A; (2) removed 11 feet of free petroleum product from on-site well PW-1; (3) investigated on-site wells to ensure that they have not provided a conduit for contamination to the drinking water aquifer; (4) remediated sediment from NIKE missile magazine storm water ditch, which ultimately discharges to Seavey Drainage Ditch; (5) sampled storm water discharge to ensure that storm water from the LTS does not contain contaminants and is not adversely affecting the Seavey Drainage Ditch or other downstream surface water bodies; and (6) removed eight USTs and associated soil contamination.

Therefore, based on the site background documents reviewed, the U.S. Navy has conducted remediation activities at identified sources at the LTS to allow for unrestricted future use of the site. As a result, the site apparently does not pose a significant threat to human health and the environment. If additional information becomes available that changes this determination, the U.S. Navy should re-evaluate the site.

#### **REFERENCES**

Ensafe and Naval Facilities Engineering Command (NAVFAC) Southern Division. December 2004. "Disks One to Four".